1   39630/RJP/E264

A METHOD AND APPARATUS FOR VERIFYING CONNECTIVITY AMONG NODES IN
A COMMUNICATIONS NETWORK

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ABSTRACT OF THE DISCLOSURE
A method and apparatus for verifying connectivity between network
nodes in a communications network. For each node periodic time
intervals are provided. Elapsed periodic time intervals are
counted since transmission of a link integrity indication frame,
the link integrity indication frame being a frame which, when
transmitted by a network node, can be received by all other nodes
on the communications network and which contains a source
identifier, such as a source address, that uniquely identifies
a transmitting node. Frames are received from a sending node and
a node state status and a current received frame source address
are maintained during each periodic time interval. Upon the
expiration of a predetermined elapsed time interval the node
state status and a count of the elapsed periodic time intervals
since transmission of a link integrity indication frame are
determined. A link integrity indication frame is transmitted
based upon determining the count of predetermined elapsed time
intervals as being greater than a predefined count limit and the
node state status as not being indicative of network traffic. A
counter is incremented every time a periodic time interval
elapses and the network node has not sent a link integrity
indication frame during the elapsed time interval. The counter
is reset whenever the network node transmits a link integrity
indication frame. A node initial state status is established upon
receipt of a frame from another node on the network. Upon
receiving a subsequent frame within the predetermined elapsed
time interval, the maintained current received frame source
address is compared with a subsequent frame source address. If
the comparing indicates a same source address, the node state
status remains unchanged. If the comparing indicates a different
source address, the node state status changes to being indicative

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of network traffic and transmitting a link integrity indication
frame is suppressed.

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